

Abstract of the Disclosure

A semiconductor device, such as a multiprocessor chip for a computer system,  
5 includes a total number of on-board components which is greater than the number of that  
component required by the system. The chip may be provided with multiple I/O  
controllers, e.g. more than one controller per I/O interface, and the I/O controllers can act  
as backups to one another, with failover logic controlling the backup process. In addition,  
the number of processors formed on the chip may be greater than the number required by  
10 the system, allowing multiple levels of redundancy and greater successful manufacturing  
yields.

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